



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20531
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/865,514	05/29/2001	Kazuma Okuda	010568	3133

23850 7590 03/14/2002

ARMSTRONG, WESTERMAN & HATTORI, LLP
1725 K STREET, NW.
SUITE 1000
WASHINGTON, DC 20006

EXAMINER

ELKASSABGI, HEBA

ART UNIT PAPER NUMBER

2834

DATE MAILED: 03/14/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/865,514

Applicant(s)

OKUDA, KAZUMA

Examiner

Heba Elkassabgi

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 May 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Specification

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: Outer rotor type motor/generator with an air inlet passage and air gap shield coverings on stator.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 4 is vague and indefinite because it is unclear in the amount the applicant is claiming in the channels (36c) that are inclined towards the circumferential direction. In order to further the prosecution on the merits the examiner will assume that the number of channels will reflect the same number of coils in the invention.

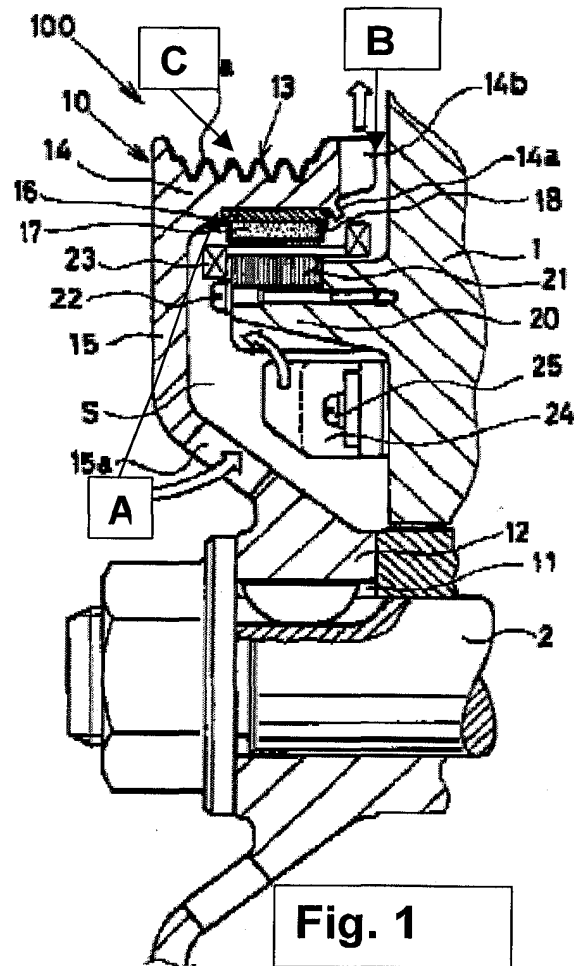
Claim Rejections - 35 USC § 103

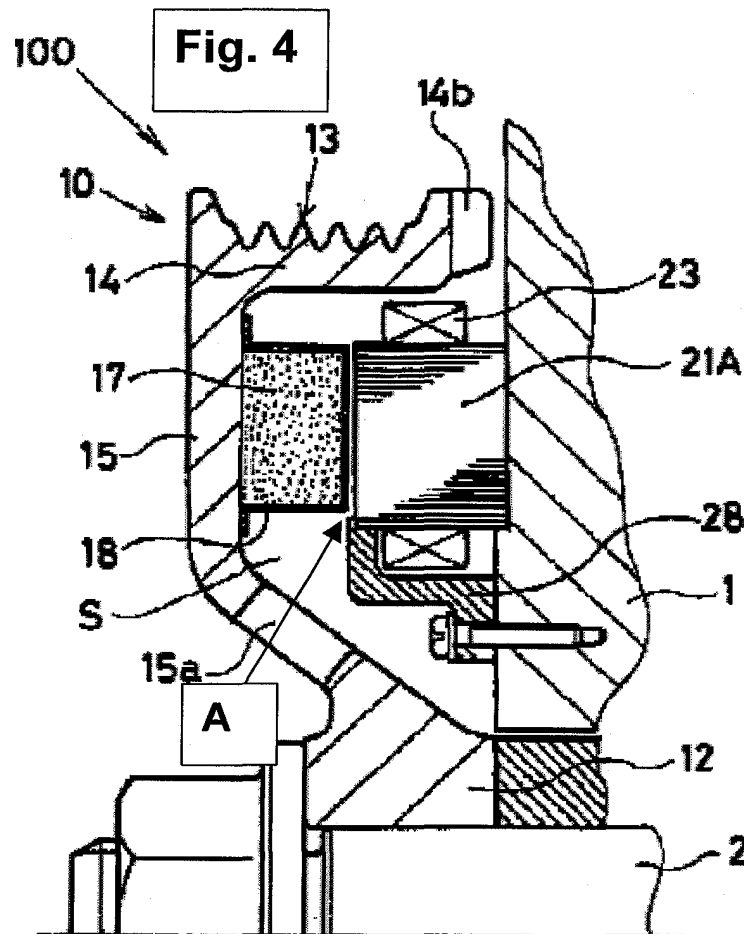
The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kusase et al. J.P. Patent Application 04222436A and further in view of Yoda et al. J.P. Patent Application 04038149A and Ito J.P. Patent Application 59230448A and Gritter et al. 4651066A.

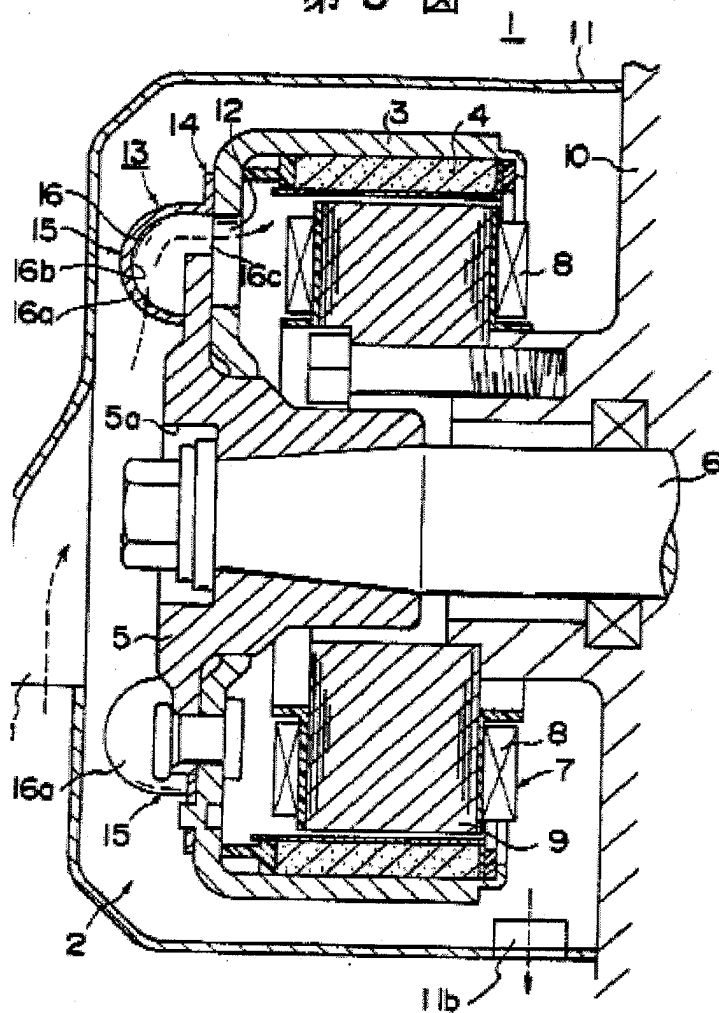
Kusase et al. illustrates a generator motor (100) in Figure 1, that is positioned between a pulley (10) and an engine housing (1) with a pulley (10) fitted over an end part of a crank shaft (2) with the stator yoke (21) positioned to the protruding wall (20) of the engine housing (1). Furthermore, a rotor yoke (16) is secured fixedly on to the inner peripheral face end (14) of the pulley (10), with the rotor yoke (16) facing the stator yoke (21) diagonally from an air gap (A). Additionally, Figure 1 illustrates an air passage (B) that is positioned between engine housing (1) and the peripheral wall edge (C) of the pulley (10). In addition, Kusase et al. illustrates in Figure 4 a recessed space (S). However, Kusase et al. does not illustrate a crank pulley with fan blades positioned on to the side walls at are extending radially outward from an end of the crank shaft and stator coils cooled from air flowing through the annular space by way of the air passage with the air being discharged through the fan blades.





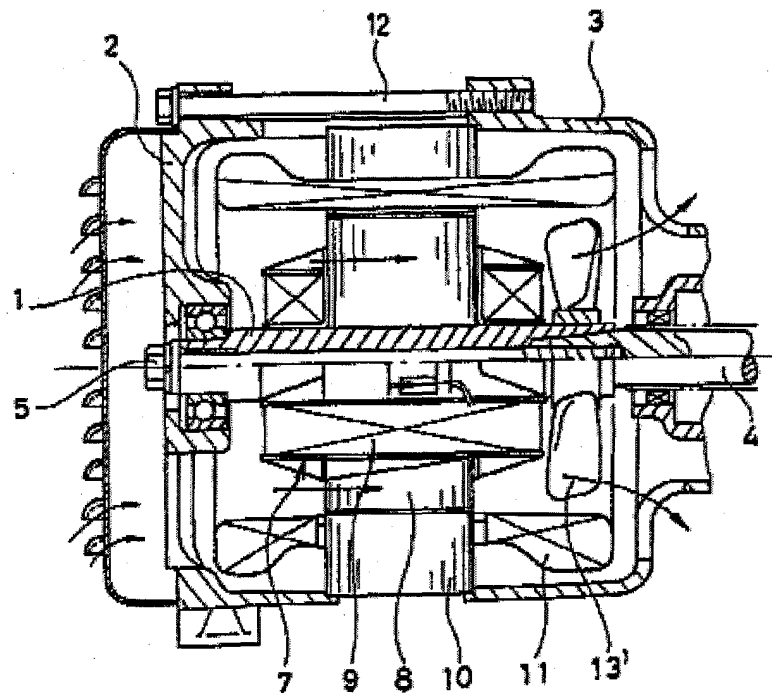
Yoda et al. illustrates in Figure 3 a generator with fan blades (15) that radially extend outward from the crankshaft (6) and are positioned onto the body (14) of the fan (13) that is located on to a crank pulley (5).

第 3 図



Art Unit: 2834

It illustrates in Figure 4 a generator in which air flows through a stator core (8) with coils (11) and is discharged through the fan blades (13') to the outside of the generator.



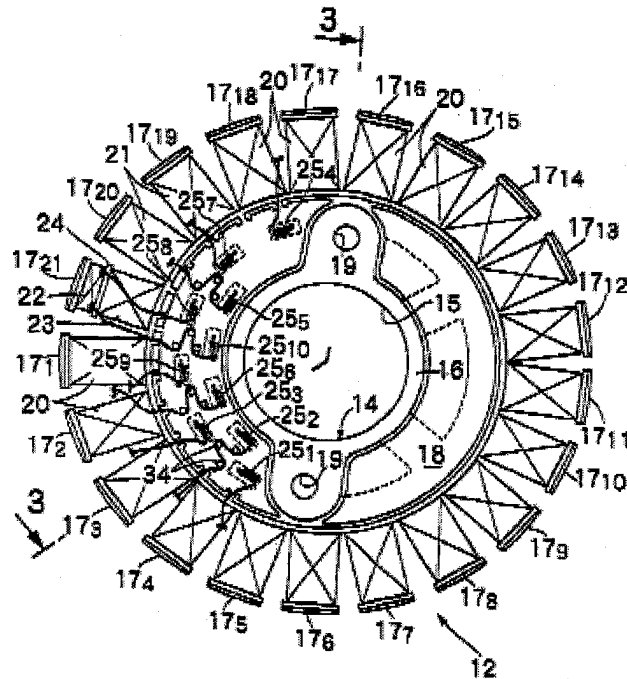
第 4 圖

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify Kusase et al.'s invention by adding radially extending fan blades from the crankshaft that is positioned onto the pulley in order to enhance the cooling effect. As well as having airflow through the stator core and windings to be discharged through the fan blades to the outside of the generator in order to shorten axial length.

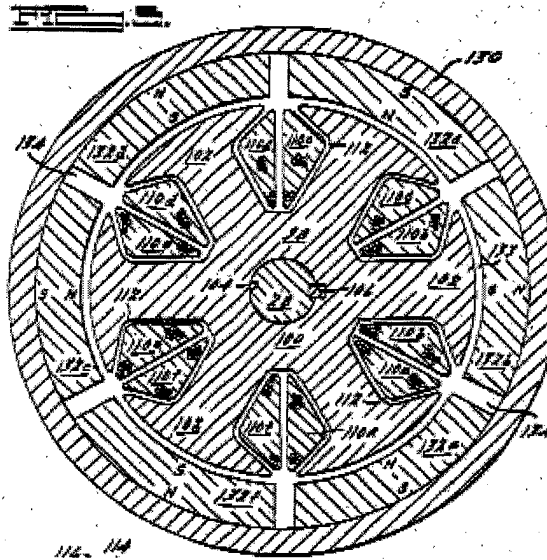
Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kusase et al. J.P. Patent Application 04222436A and Yoda et al. J.P. Patent Application 04038149A and Ito J.P. Patent Application 59230448A and Gritter et al. 4651066A and in further view of Kakinuma et al. U.S. Patent 6091172.

Kusase et al. and Yoda et al. and Ito and Gritter et al. teach all of claims 1 and 2 except for the plurality of the stator core and coils with the coils wound around the cores and projecting in a circumferential direction. Kakinuma et al. discloses in Figure 2 a stator (12) with stator cores (14) formed from a plurality of core plates with coils (20) and formed into a T-shape and projectingly provided from a distance apart from one another. However, Kakinuma et al fails to show cores with coils wound around the cores and an air passages between the coils.

FIG.2



Gritter et al. illustrates in Figure 5 a stator assembly in which the coils (110) are wound around each armature tooth (102) and are extrapolative in a circumferential direction with an air passage (A) between the coils (110a through 110f).



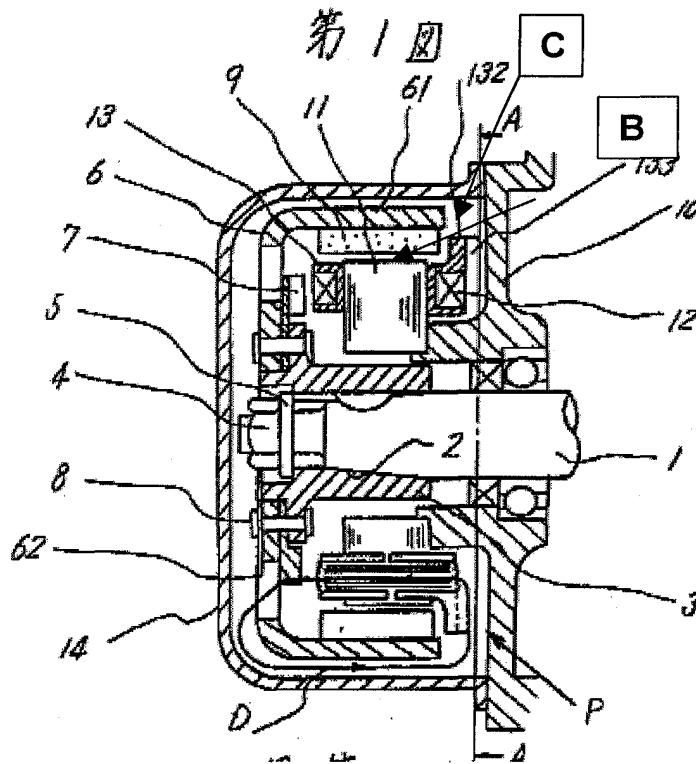
It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify Kakinuma et al.'s invention by adding an air passage (A) between the coils to lower initial and manufacturing cost, reduce weight, and reduce substantial amounts of volatile liquid fuels and exhaust emissions.

Claims 1,2,3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kusase et al. J.P. Patent Application 04222436A and Yoda et al. J.P. Patent Application 04038149A and Ito J.P. Patent Application 59230448A and Gritter et al. 4651066A and Kakinuma et al. U.S. Patent 6091172 and in further view of Kamiyama J.P. Patent Application 360118036A.

Kusase et al. and Yoda et al. and Ito and Gritter et al. 4651066A and Kakinuma et al. teach all the limitations of claims 1 and 2 except for the shield covering on the stator facing the air inlet passage and projections from the circumferential direction of

Art Unit: 2834

the outer periphery of the stator. Kamiyama illustrates in Figure 1 a generator in which a guide fin (133) acting as a cover for the air gap (A) is projecting from the upper end of the stator coil (12) facing an air inlet passage (B) for effective cooling of the coils.



It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify Kakinuma et al.'s invention by adding a guide fin (133) projecting from the top edge of the stator coil (12) in order to efficiently circulate the cooling air for guiding fluid in order to effectively cool the coils (12).

Conclusion

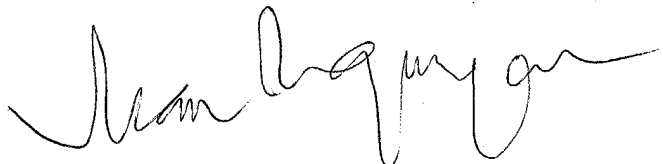
Application/Control Number: 09/865,514
Art Unit: 2834

Page 12

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Heba Elkassabgi whose telephone number is (703) 305-2723. The examiner can normally be reached on M-Th (6:30-3:30), and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3431 for regular communications and (703) 305-3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.



TRAN NGUYEN
PRIMARY EXAMINER

HYE
March 8, 2002